

WHAT IS CLAIMED IS:

1. A handover control method used in a mobile communication system which includes
5 communication apparatuses having functions of base stations, a mobile station and a communication control apparatus which controls connections between said communication apparatuses and said mobile station, said handover control method comprising the
10 steps of:

said mobile station switching a communication apparatus of a communication partner to another communication apparatus when a communication quality value between said
15 communication apparatus of said communication partner and said mobile station falls below a first threshold which is better than a limitation value by which communication is available;

wherein said communication control
20 apparatus selects at least a handover destination candidate communication apparatus from among communication apparatuses surrounding said communication apparatus of said communication partner when said communication quality value falls
25 below a second threshold which is better than said first threshold; and

said communication control apparatus keeps wireless resources of said at least a handover destination candidate communication apparatus which
30 is selected.

35 2. The handover control method as claimed in claim 1, comprising the steps of:

said communication control apparatus

notifying said mobile station of a handover destination candidate communication apparatus for which wireless resources are kept in said at least a handover destination candidate communication

5 apparatus; and

said mobile station switching said communication apparatus of said communication partner to said handover destination candidate communication apparatus which is notified by said communication control apparatus when said communication quality value falls below said first threshold.

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3. The handover control method as claimed in claim 1, comprising the steps of:

said mobile station judging whether said communication quality value falls below said second threshold, and sending a request for selecting said at least a handover destination candidate communication apparatus to said communication control apparatus when said communication quality value falls below said second threshold.

30 4. The handover control method as claimed in claim 1, comprising the steps of:

when said communication control apparatus selects a plurality of handover destination candidate communication apparatuses, said communication control apparatus determining priorities of said plurality of handover destination candidate communication apparatuses;

said communication control apparatus
notifying said mobile station of handover
destination candidate communication apparatuses in
said plurality of handover destination candidate
5 communication apparatuses for which wireless
resources are kept and corresponding priorities;

said mobile station switching said
communication apparatus of said communication
partner to one of said notified handover destination
10 candidate communication apparatuses according to
said priorities.

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5. The handover control method as claimed
in claim 1, comprising the steps of:

said mobile station sending mobile station
information to said communication control apparatus,
20 said mobile station information including a history
of movement of said mobile station and received
powers of perch channels from communication
apparatuses surrounding said communication apparatus
of said communication partner;

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said communication control apparatus
having a history of mobile station information, said
history of mobile station information including a
history of movement of said mobile station and
received powers of perch channels from communication
30 apparatuses surrounding said communication apparatus
of said communication partner for past successful
handover; and

said communication control apparatus
selecting said at least a handover destination
35 candidate communication apparatus according to said
mobile station information sent from said mobile
station and said history of mobile station

information for past successful handover.

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6. The handover control method as claimed in claim 5, comprising the steps of:

when said communication control apparatus selects a plurality of handover destination candidate communication apparatuses, said communication control apparatus determining priorities of said plurality of handover destination candidate communication apparatuses according to said mobile station information sent from said mobile station and said history of mobile station information for past successful handover.

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7. The handover control method as claimed in claim 5, comprising the steps of:

said communication control apparatus holding said history of mobile station information for all communication apparatuses controlled by said communication control apparatus.

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8. The handover control method as claimed in claim 5, comprising the steps of:

said communication control apparatus holding said history of mobile station information by each combination of a communication apparatus of handover origination and a communication apparatus of handover destination.

5 9. The handover control method as claimed
in claim 8, comprising the steps of:

 said communication control apparatus
selecting a communication apparatus of handover
destination corresponding to history data in said
10 history of mobile station information in which a
correlation value between said history data and said
mobile station information sent from said mobile
station is equal to or larger than a predetermined
value.

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 10. The handover control method as
20 claimed in claim 9, comprising the steps of:

 when said communication control apparatus
selects a plurality of handover destination
candidate communication apparatuses, said
communication control apparatus determining
25 priorities of said plurality of handover destination
candidate communication apparatuses according to
said correlation value.

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 11. A mobile station in a mobile
communication system which includes communication
apparatuses having functions of base stations, said
35 mobile station communicating with a communication
apparatus of a communication partner, said mobile
station comprising:

a handover control part for switching said communication apparatus of said communication partner to another communication apparatus when a communication quality value between said communication apparatus of said communication partner and said mobile station falls below a first threshold which is better than a limitation value by which communication is available.

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12. A communication control apparatus in a mobile communication system which includes communication apparatuses having functions of base stations, a mobile station and said communication control apparatus which controls connections between said communication apparatuses and said mobile station, said communication control apparatus comprising:

a part for allowing said mobile station to switch a communication apparatus of a communication partner to another communication apparatus when a communication quality value between said communication apparatus of said communication partner and said mobile station falls below a first threshold which is better than a limitation value by which communication is available.

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13. The communication control apparatus as claimed in claim 12, said communication control apparatus comprising:

a part for selecting at least a handover destination candidate communication apparatus from

among communication apparatuses surrounding said
communication apparatus of said communication
partner when said communication quality value falls
below a second threshold which is better than said
5 first threshold;

a part for keeping wireless resources of
said at least a handover destination candidate
communication apparatus which is selected; and

10 a part for notifying said mobile station
of a handover destination candidate communication
apparatus for which wireless resources are kept in
said at least a handover destination candidate
communication apparatus.

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